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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/341,287 08/19/99 WOODS

J LC-302/PCT/U

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| EXAMINER |
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IM22/0703

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| WILSON, D | |
| ART UNIT | PAPER NUMBER |

Handwritten number 12

1713
DATE MAILED:

07/03/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/341,287

Applicant(s)

WOODS ET AL.

Examiner

D. R. Wilson

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/6/01.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-42 is/are pending in the application.
- 4a) Of the above claim(s) 29,30,32,33 and 38-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-28,31 and 34-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____

- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other.

DETAILED ACTION

Status of Application

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/6/01 has been entered.
2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).
3. **Misnumbered new Claims 1-20, filed 6/6/01 have been renumbered 23-42.**
4. Applicant's election of the inventions of Group I, now claims 23-37 and 41-42, drawn to a process of making hydroxy functional materials, and the species of as exemplified in Example 1, i.e., (a) a carboxylic acid -terminated butadiene acrylonitrile copolymer, (b) ethylene carbonate as the hydroxylating agent, (c) tetraethylammonium iodide as the phase transfer catalyst, and (d) no amphoteric agent present, in Paper No. 7 remains in effect. Claims 38-40 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Claims 29-30, 32-33 and 41-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected specie of the invention.
5. Claims 23-28, 31 and 34-37 are currently under consideration.

Response to Amendment

6. Applicant's amendment filed 6/6/01, has been fully considered with the following results. All previous rejections are overcome by the cancellation of all the claims previously pending and the rejections are withdrawn. However, this is moot as the same bases of rejections in regards to the prior art rejections are still applied to the new claims as is discussed below.

Previously Cited Statutes

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Objection to New Matter

8. The amendment filed 6/6/01 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

There appears to be no basis for the new claim limitation in Claim 23 of "--- having a molecular weight no more than about three times greater than the molecular weight of said dicarboxylic acid-functionalized material." The Examiner acknowledges that there is a basis as discussed by applicant for "about 2.7 to about 3.0 times the molecular weight of said dicarboxylic acid-functionalized material", but does not see a basis for specifically claiming molecular weights not greater than the highest number exemplified.

9. Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112, First Paragraph

10. ***Claims 23-28, 31 and 34-37 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.*** The subject matter in question is that discussed in the previous section.

Claim Rejections - 35 USC § 112, Second Paragraph

11. ***Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*** Claim 25 is indefinite in regards to the recited molecular weight. Presumably applicant means an "average" molecular weight although this is not stated, and secondly, it can not be told whether this is a number average, weight average, or some other basis of average molecular weight.

35 U.S.C. § 103(a) Rejection

12. **Claims 23-28, 31 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Admissions by Applicant, Merck Index, Wu and Yoshino, in further view of Wu or Yoshino.**

The basis of this rejection was stated in Detailed Action § 13 of the Office action of 10/3/00, and has been discussed further in Detailed Action § 13 to § 16 of the Office Action of 3/6/01 and Additional Comments § 5 to § 8 of the Office action of 5/1/01. The teachings of Admissions by Applicant, Merck Index, Wu and Yoshino have been used in lieu of the previous Examiner's Notice. These teachings are regarding that *"--- It is well known that reactions utilizing ethylene oxide have the disadvantage of ethylene oxide being a gaseous and highly toxic material"*, which were discussed in Additional Comments § 5 of the Office action of 5/1/01.

13. In regards to the new claim limitations concerning the molecular weight of the dihydroxy-functionalized material (HTBN), Okamoto teaches reacting the carboxyl terminated polymer (CTBN) with 3 to 10 parts of ethylene oxide per 100 parts of the polymer (col. 1, line 66 to col. 2, line 5). Thus, the limitations of the claims in this regard appear to be clearly met. It is also pointed out that applicant at page 2 (lines 4-10), of the specification references Okamoto as the process for making commercial HTBNs from CTBNs. Applicant also seems to go to some length to show that the products of the instant invention are comparable in molecular weight, hydroxyl number and acid number to the commercial product (pages 26-28 of the specification).

14. In regards to the molecular weight limitation of Claim 25, Okamoto teaches that the molecular weights for the CBTNs range from about 400 to 8,000 (col. 2, lines 23-27). Okamoto also uses a CBTN with a number average molecular weight of about 3,100 (Example 1, ephr of 0.065 equates to Mn of ~3,100).

15. Applicant repeats the previously made arguments concerning the motivation to replace ethylene oxide, and the catalyst used by Yoshino or Wu, which are not deemed to be persuasive for reasons of record made in the last action.

16. The argument that controlling the molecular weight of the hydroxyalkylated final product is critical and that this somehow distinguishes the invention from that of Okamoto in view of Yoshino or Wu is not

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deemed to be persuasive for several reasons. First, it would have been obvious to one of ordinary skill in the art to achieve the same degree of ethoxylation taught by Okamoto in order to make a comparable product. Secondly, as has been discussed above, applicant in their own disclosure teach that the molecular weights, hydroxyl numbers and acid numbers for products of the instant invention are comparable to those of the commercial materials.

17. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Admissions by Applicant, Merck Index, Wu and Yoshino, in further view of Wu or Yoshino as applied to claims 23-28, 31 and 34-37 above, and further in view of Admissions by Applicant.

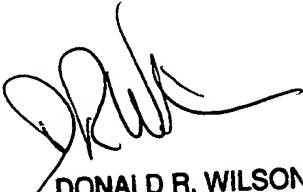
18. In addition to the teachings of Okamoto discussed above concerning molecular weight of the starting CTBNN, applicant has admitted that commercially available CTBNs generally have a number average molecular weight of between 3,100 and 4,200. In as much as it would have been considered obvious to use the commercially available CBTNs which have molecular weights within the teachings of Okamoto, it also would have been obvious to one of ordinary skill in the art to use CBTNs within the instantly claimed molecular weight range.

Future Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. R Wilson whose telephone number is 703-308-2398.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 703-308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications. The unofficial direct fax phone number to the Examiner's desk is 703-872-9029.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-2351.


DONALD R. WILSON
PRIMARY EXAMINER